WHAT IS CLAIMED:

1. A polypeptide for determining the molecular weight of a copolymer, said polypeptide having an identified molecular weight and an amino acid composition corresponding to said copolymer.

2. The polypeptide of Claim 1 wherein the identified molecular weight is between about 2,000 daltons and about 40,000 daltons

3. The polypeptide of Claim 1 which has an amino acid distribution which reflects the amino acid distribution of the copolymer.

4. The polypeptide of Claim 1 wherein the copolymer is glatiramer acetate.

5. The polypeptide of Claim 1 wherein the copolymer is a terpolymer.

6. The polypeptide of Claim 1 wherein said copolymer comprises amino acids alanine, glutamic acid, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.38 to about 0.50;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

7. The polypeptide of Claim 1 wherein said copolymer comprises amino acids alanine, glutamic acid, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.42 to about 0.45;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

8. The polypeptide of Claim 6 which has alanine at the N-terminus.

9. The polypeptide of Claim 6 which has tyrosine at the fourth position from the N-terminus.

10. The polypeptide of Claim 6 which is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 or SEQ ID NO:7.

11. The polypeptide of Claim 1 wherein said copolymer comprises amino acids alanine, glutamic acid and tyrosine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.800;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said tyrosine is present in a molar fraction of about 0.005 to about 0.250.

12. The polypeptide of Claim 1 wherein said copolymer comprises amino acids alanine, glutamic acid and lysine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.600;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said lysine is present in a molar fraction of about 0.2 to about 0.7.

13. The polypeptide of Claim 1 wherein said copolymer comprises amino acids alanine, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.3 to about 0.6;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.1 to about 0.5.

14. The polypeptide of Claim 1 wherein said copolymer comprises amino acids glutamic acid, tyrosine and lysine, and wherein:

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.3 to about 0.7.

15. The molecular weight marker of Claim 1 wherein said polypeptide consists entirely of *L*- amino acids.

16. The molecular weight marker of Claim 1 wherein said polypeptide consists entirely of *D*- amino acids.

17. The polypeptide of Claim 1 wherein the molecular weight of the copolymer is determined with a molecular size discrimination system

18. The polypeptide of Claim 17 where in the molecular size discrimination system is a molecular weight sizing column.

19. The polypeptide of claim 18 wherein said molecular weight sizing column is selected from the group consisting or a TSK column, a Sephadex column, a Sepharose column, and a Superose column.

20. A plurality of polypeptides for determining the molecular weight of a copolymer on a molecular weight sizing column, which comprises two to about ten polypeptides, each polypeptide having an identified molecular weight and an amino acid composition corresponding to said copolymer and wherein an approximately linear relationship exists between the retention time of said polypeptides on said column and the log of the molecular weight of said polypeptides.

21. The plurality of polypeptides of Claim 20 wherein the identified molecular weight is between about 2,000 daltons and about 40,000 daltons.

22. The plurality of polypeptides of Claim 20 wherein the copolymer is glatiramer acetate.

23. The plurality of polypeptides of Claim 20 wherein said copolymer is a terpolymer.

24. The plurality of polypeptides of Claim 20 wherein said copolymer comprises amino acids alanine, glutamic acid, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.38 to about 0.50;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

25. The plurality of polypeptides of Claim 20 wherein said copolymer comprises amino acids alanine, glutamic acid, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.42 to about 0.45;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

26. The plurality of polypeptides of Claim 20 wherein said copolymer comprises amino acids alanine, glutamic acid and tyrosine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.800;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said tyrosine is present in a molar fraction of about 0.005 to about 0.250.

27. The plurality of polypeptides of Claim 20 wherein said copolymer comprises amino acids alanine, glutamic acid and lysine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.600;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said lysine is present in a molar fraction of about 0.2 to about 0.7.

28. The plurality of polypeptides of Claim 20 wherein said copolymer comprises amino acids alanine, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.3 to about 0.6;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.1 to about 0.5.

29. The plurality of polypeptides of Claim 20 wherein said copolymer comprises amino acids glutamic acid, tyrosine and lysine, and wherein:

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.3 to about 0.7.

30. The plurality of polypeptides of Claim 20 which comprises a polypeptide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 or SEQ ID NO:7.

31. The plurality of polypeptides of Claim 20 which consists essentially of two or more polypeptides selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 or SEQ ID NO:7.

32. The plurality of polypeptides of Claim 20 wherein each of said polypeptides consists entirely of *L*- amino acids or consists entirely of *D*- amino acids.

33. The plurality of polypeptides of Claim 20 wherein said molecular weight sizing column is selected from the group consisting or a TSK column, a Sephadex column, a Sepharose column, and a Superose column.

34. A kit comprising the plurality of polypeptides of Claim 20.

35. A plurality of polypeptides for determining the molecular weight of a copolymer on a molecular weight sizing column, which comprises two to about ten polypeptides, each polypeptide having an identified molecular weight and an amino acid composition corresponding to said copolymer, wherein a linear relationship exists between the molar ellipticity of the polypeptides and the molecular weight of the polypeptides.

36. The plurality of polypeptides of Claim 35 wherein the identified molecular weight is between about 2,000 daltons and about 40,000 daltons.

37. The plurality of polypeptides of Claim 35 wherein the copolymer is glatiramer acetate.

38. The plurality of polypeptides of Claim 35 wherein the copolymer is a terpolymer.

39. The plurality of polypeptides of Claim 35 wherein the copolymer comprises amino acids alanine, glutamic acid, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.38 to about 0.50;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

40. The plurality of polypeptides of Claim 35 wherein the copolymer comprises amino acids alanine, glutamic acid, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.42 to about 0.45;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

41. The plurality of polypeptides of Claim 35 wherein the copolymer comprises amino acids alanine, glutamic acid and tyrosine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.800;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said tyrosine is present in a molar fraction of about 0.005 to about 0.250.

42. The plurality of polypeptides of Claim 35 wherein the copolymer comprises amino acids alanine, glutamic acid and lysine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.600;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said lysine is present in a molar fraction of about 0.2 to about 0.7.

43. The plurality of polypeptides of Claim 35 wherein the copolymer comprises amino acids alanine, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.3 to about 0.6;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.1 to about 0.5.

44. The plurality of polypeptides of Claim 35 wherein the copolymer comprises amino acids glutamic acid, tyrosine and lysine, and wherein:

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.3 to about 0.7.

45. The plurality of polypeptides of Claim 35 which comprises a polypeptide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 or SEQ ID NO:7.

46. The plurality of polypeptides of Claim 35 which consists essentially of two or more polypeptides selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 or SEQ ID NO:7.

47. The plurality of polypeptides of Claim 35 wherein each of said polypeptide consists entirely of *L*- amino acids or consists entirely of *D*- amino acids.

48. The plurality of polypeptides of Claim 35 wherein said molecular weight sizing column is selected from the group consisting or a TSK column, a Sephadex column, a Sepharose column, and a Superose column.

49. A kit comprising the plurality of molecular weight markers of Claim 35.

50. A pharmaceutical composition for the treatment of an immune disease, comprising a therapeutically effective amount of a polypeptide having an identified molecular weight and an amino acid composition corresponding to glatiramer acetate or a terpolymer and a pharmaceutically acceptable carrier.

51. The pharmaceutical composition of Claim 50 wherein the identified molecular weight is between about 2,000 daltons and about 40,000 daltons.

52. The pharmaceutical composition of Claim 50 wherein said polypeptide comprises alanine, glutamic acid, tyrosine and lysine and wherein:

said alanine is present in a molar fraction of about 0.38 to about 0.50;
said glutamic acid is present in a fraction fraction of about 0.13 to about 0.15;
said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and
said lysine is present in a molar fraction of about 0.3 to about 0.4.

53. The pharmaceutical composition of Claim 50 wherein said polypeptide comprises alanine, glutamic acid, tyrosine and lysine and wherein:

said alanine is present in a molar fraction of about 0.42 to about 0.45;
said glutamic acid is present in a fraction fraction of about 0.13 to about 0.15;
said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and
said lysine is present in a molar fraction of about 0.3 to about 0.4.

54. The pharmaceutical composition of Claim 50 wherein said molecular weight marker has a molecular weight of about 3,000 to about 12,000 daltons.

55. The pharmaceutical composition of Claim 50 which comprises a polypeptide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 or SEQ ID NO:7.

56. The pharmaceutical composition of Claim 50 wherein said polypeptide comprises amino acids alanine, glutamic acid and tyrosine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.800;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said tyrosine is present in a molar fraction of about 0.005 to about 0.250.

57. The pharmaceutical composition of Claim 50 wherein said polypeptide comprises amino acids alanine, glutamic acid and lysine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.600;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said lysine is present in a molar fraction of about 0.2 to about 0.7.

58. The pharmaceutical composition of Claim 50 wherein said polypeptide comprises amino acids alanine, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.3 to about 0.6;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.1 to about 0.5.

59. The pharmaceutical composition of Claim 50 wherein said polypeptide comprises amino acids glutamic acid, tyrosine and lysine, and wherein:

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.3 to about 0.7.

60. The pharmaceutical composition of Claim 50 wherein said immune disease is a B cell mediated autoimmune disease.

61. The pharmaceutical composition of Claim 50 wherein said immune disease is a T cell mediated autoimmune disease.

62. The pharmaceutical composition of Claim 50 wherein said immune disease is a demyelinating disease.

63. The pharmaceutical composition of Claim 50 wherein said immune disease is multiple sclerosis.

64. The pharmaceutical composition of Claim 50 wherein said immune disease is an inflammatory disease.

65. The pharmaceutical composition of Claim 50 wherein said immune disease is an rheumatoid arthritis.

66. The pharmaceutical composition of Claim 50 wherein said immune disease is osteoarthritis.

67. The pharmaceutical composition of Claim 50 wherein said immune disease is GVHD.

68. The pharmaceutical composition of Claim 50 wherein said immune disease is HVGD.

69. The pharmaceutical composition of Claim 50 wherein said immune disease is multiple sclerosis, autoimmune hemolytic anemia, autoimmune oophoritis, autoimmune thyroiditis, autoimmune uveoretinitis, chronic immune thrombocytopenic purpura, colitis, contact sensitivity disease, diabetes mellitus, Graves disease, Guillain-Barre's syndrome, Hashimoto's disease, idiopathic myxedema, myasthenia gravis, psoriasis, pemphigus vulgaris, rheumatoid arthritis, or systemic lupus erythematosus.

70. A method for treating an immune disease in a mammal which comprises administering a therapeutically effective amount of a polypeptide having an identified molecular weight and an amino acid composition corresponding to glatiramer acetate or a terpolymer.

71. The method of Claim 70 wherein the identified molecular weight is between about 2,000 daltons and about 40,000 daltons

72. The method of Claim 70 wherein said polypeptide comprises amino acids alanine, glutamic acid, tyrosine and lysine and wherein:

said alanine is present in a molar fraction of about 0.38 to about 0.50;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

73. The method of Claim 70 wherein said polypeptide comprises amino acids alanine, glutamic acid, tyrosine and lysine and wherein:

said alanine is present in a molar fraction of about 0.42 to about 0.45;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

74. The method of Claim 70 wherein said polypeptide comprises amino acids alanine, glutamic acid and tyrosine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.800;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said tyrosine is present in a molar fraction of about 0.005 to about 0.250.

75. The method of Claim 70 wherein said polypeptide comprises amino acids alanine, glutamic acid and lysine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.600;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said lysine is present in a molar fraction of about 0.2 to about 0.7.

76. The method of Claim 70 wherein said polypeptide comprises amino acids alanine, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.3 to about 0.6;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.1 to about 0.5.

77. The method of Claim 70 wherein said polypeptide comprises amino acids glutamic acid, tyrosine and lysine, and wherein:

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.3 to about 0.7.

78. The method of Claim 70 wherein said polypeptide has a molecular weight of about 3,000 to about 12,000 daltons.

79. The method of Claim 70 which comprises a polypeptide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 or SEQ ID NO:7.

80. The method of Claim 70 wherein said polypeptide inhibits activation of T cells.

81. The method of Claim 70 wherein said polypeptide activates T cell suppressor mechanisms.

82. The method of Claim 70 wherein said polypeptide inhibits activation of T cells responsive to myelin basic protein.

83. The method of Claim 70 wherein said polypeptide inhibits activation of T cells responsive to collagen type II peptide.

84. The method of Claim 70 wherein said polypeptide binds to a class II MHC protein.

85. The method of Claim 70 wherein said polypeptide binds to HLA-DR1.

86. The method of Claim 70 wherein said polypeptide binds to HLA-DR2.

87. The method of Claim 70 wherein said polypeptide binds to HLA-DR4.

88. The method of Claim 70 wherein said polypeptide binds to an antigen presenting cell.

89. The method of Claim 70 wherein said immune disease is multiple sclerosis.

90. The method of Claim 70 wherein said immune disease is rheumatoid arthritis.

91. The method of Claim 70 wherein said immune disease is osteoarthritis.

92. The pharmaceutical composition of Claim 50 wherein said immune disease is GVHD.

93. The pharmaceutical composition of Claim 50 wherein said immune disease is HVGD.

94. The method of Claim 70 wherein said immune disease is autoimmune hemolytic anemia, autoimmune oophoritis, autoimmune thyroiditis, autoimmune uveoretinitis, chronic immune thrombocytopenic purpura, colitis, contact sensitivity

disease, diabetes mellitus, Graves disease, Guillain-Barre's syndrome, Hashimoto's disease, idiopathic myxedema, myasthenia gravis, psoriasis, pemphigus vulgaris, rheumatoid arthritis, or systemic lupus erythematosus.

95. A method of treating a subject having an immune disease, comprising: (a) selecting a therapeutic agent comprising a molecular weight marker having an identified molecular weight which is between about 2,000 daltons and about 40,000 daltons and an amino acid composition corresponding to glatiramer acetate or a terpolymer and which inhibits binding of an antigenic peptide to an MHC class II protein, and a pharmaceutically acceptable carrier; and (b) administering the therapeutic agent to the subject having the autoimmune disease.

96. A method according to Claim 95 wherein the antigenic peptide is associated with an autoimmune disease.

97. A method according to Claim 95 wherein the MHC class II protein is associated with an autoimmune disease.

98. A method according to Claim 95 wherein step (b) further comprises supplementing the combined molecular weight marker and carrier with at least an additional therapeutic agent.

99. A method according to Claim 98 wherein said agent is selected from the group consisting of an antibody, an enzyme inhibitor, an antibacterial agent, an antiviral agent, a steroid, a nonsteroidal anti-inflammatory agent, an antimetabolite, a cytokine, and a soluble cytokine receptor.

100. A method according to Claim 98 wherein said agent is an inducer of synthesis of a cytokine in a subject.

101. A method according to Claim 98 wherein said agent is selected from the group consisting of interferon-β, interleukin-4 and interleukin-10.

102. A method according to Claim 98 wherein said agent is an enzyme inhibitor selected from the group consisting of a protease inhibitor and a cyclooxygenase inhibitor.

103. A method according to Claim 95 wherein step (a) further comprises selecting the pharmaceutically acceptable carrier as suitable for administration to the subject by a route selected from the group consisting of intravenous, intramuscular, intraperitoneal, subcutaneous, oral, and transdermal administration.

104. A polypeptide for calibrating a molecular weight discrimination system for measuring the molecular weight of a copolymer said polypeptide having an identified molecular weight and a composition corresponding to said copolymer.

105. The polypeptide of Claim 104 wherein the identified molecular weight is between about 2,000 daltons and about 40,000 daltons

106. The polypeptide of Claim 104 which has an amino acid distribution which reflects the amino acid distribution of the copolymer.

107. The polypeptide of Claim 104 wherein the copolymer is glatiramer acetate.

108. The polypeptide of Claim 104 wherein the copolymer is a terpolymer.

109. The polypeptide of Claim 104 wherein said copolymer comprises amino acids alanine, glutamic acid, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.38 to about 0.50;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

110. The polypeptide of Claim 104 wherein said copolymer comprises amino acids alanine, glutamic acid, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.42 to about 0.45;

said glutamic acid is present in a molar fraction of about 0.13 to about 0.15;

said tyrosine is present in a molar fraction of about 0.08 to about 0.10; and

said lysine is present in a molar fraction of about 0.3 to about 0.4.

111. The polypeptide of Claim 109 which has alanine at the N-terminus.

112. The polypeptide of Claim 109 which has tyrosine at the fourth position from the N-terminus.

113. The polypeptide of Claim 109 which is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6 or SEQ ID NO:7.

114. The polypeptide of Claim 104 wherein said copolymer comprises amino acids alanine, glutamic acid and tyrosine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.800;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said tyrosine is present in a molar fraction of about 0.005 to about 0.250.

115. The polypeptide of Claim 104 wherein said copolymer comprises amino acids alanine, glutamic acid and lysine, and wherein:

said alanine is present in a molar fraction of about 0.005 to about 0.600;

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300; and

said lysine is present in a molar fraction of about 0.2 to about 0.7.

116. The polypeptide of Claim 104 wherein said copolymer comprises amino acids alanine, tyrosine and lysine, and wherein:

said alanine is present in a molar fraction of about 0.3 to about 0.6;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.1 to about 0.5.

117. The polypeptide of Claim 104 wherein said copolymer comprises amino acids glutamic acid, tyrosine and lysine, and wherein:

said glutamic acid is present in a molar fraction of about 0.005 to about 0.300;

said tyrosine is present in a molar fraction of about 0.005 to about 0.250; and

said lysine is present in a molar fraction of about 0.3 to about 0.7.

118. The molecular weight marker of Claim 104 wherein said polypeptide consists entirely of *L*- amino acids.

119. The molecular weight marker of Claim 104 wherein said polypeptide consists entirely of *D*- amino acids.

120. The polypeptide of Claim 104 wherein the molecular weight of the copolymer is determined with a molecular size discrimination system

121. The polypeptide of Claim 120 where in the molecular size discrimination system is a molecular weight sizing column.

122. The polypeptide of claim 121 wherein said molecular weight sizing column is selected from the group consisting or a TSK column, a Sephadex column, a Sepharose column, and a Superose column.